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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/009,986

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1421

7590

08/30/2005

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EXAMINER

VANNUCCI, JAMES

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 08/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

APL

**Office Action Summary**

Application No.

10/009,986

Applicant(s)

CHIAO, JUNG-CHIH

Examiner

Jim Vannucci

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
 Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 July 2005.  
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 13-23 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 13-15 is/are rejected.  
 7) ☒ Claim(s) 16-23 is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on 09 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☒ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5) ☐ Notice of Informal Patent Application (PTO-152)  
 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Budrow et al.(3,665,477) in view of Brankovic(6,198,460).

Claim 13, figure 4 of Budrow discloses transmission line conductors(30), rotating antenna arms(16 & 22), and rotatably coupled support arms(40).

Budrow discloses a single actuator mechanism(38; and col. 4, lines 58-60) functioning as recited.

Figure 4 of Brankovic discloses using two actuator mechanisms to adjust the direction of the radiated field of an antenna(7; and col. 5, lines 15-23).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use two actuator mechanisms as disclosed in Brankovic instead of one as disclosed in Budrow for improved steering of the antenna's radiated field as disclosed in Budrow.

3. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Budrow in view of Brankovic as applied above, and further in view of Faulkner et al.(6,023,209).

Budrow and Brankovic do not disclose CPS or CPW transmission lines.

Claims 14-15, Faulkner discloses the use of CPW and CPS transmission lines to suppress undesired electrical propagation(col. 1, lines 8-9 and 58-67).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the transmission lines disclosed in Faulkner with the device disclosed in Budrow and Brankovic to improve suppression of undesired signals as disclosed in Faulkner.

***Allowable Subject Matter***

4. Claims 16-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter. The following limitations are primarily responsible for distinguishing these claims over the prior art.

Regarding claims 17-20, all of the limitations concerning the first micro-mechanical hinge structure; and regarding claims 16 and 21-23, all of the limitations concerning the second and third micro-mechanical hinge structure.

Proper motivation was not found in the prior art to combine references disclosing the recited hinge structure with the references that disclose the other limitations recited in these claims.

### ***Response to Arguments***

6. Applicant's arguments filed July 13, 200 have been fully considered but they are not persuasive with respect to claims 13-15.

7. Claims 13-15 do not recite any limitations concerning micro-electrical mechanical switches. While the preamble of these claims state that the device is a MEMS reconfigurable antenna; the claim limitations do not reference any words in the preamble, nor is the preamble required to determine or interpret the meaning of any limitation in the body of the claims. Consequently, the wording in the claim preamble is not considered when determining patentability of these claims.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Correspondence***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Jim Vannucci whose phone number is (571) 272-1820.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center whose telephone number is (703) 308-0956.

Papers related to Technology Center 2800 applications only may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Technology Center Fax Center number is (703) 872-9306.

  
James Vannucci